Lawrence P. Cole, GTE Laboratories, Inc.

Yes, well, the decision by management can't determine — in advance when they make a decision to invest can't determine what the economic life is going to prove to be. They can estimate at the time they make the decision what they think it's going to be, but events beyond their control are going to decide what it ultimately is. Now, I'm not familiar with what's been going on in Texas. If, as you say, you've been trying to take into account some of the economic factors, then certainly that would indicate a movement in the right direction. How great the gap is between those depreciation rates that have been approved and what some party may — the incumbent LECs in particular may think the forward-looking depreciation lives ought to be would depend upon how long ago the last such revision was made and what's happened in the meantime in terms of increasing uncertainty or riskiness of those investments in the marketplace, and, of course, how fast you move to close the gap in the previous meetings.

Emily Hoffnar, FCC

Labros or Ben?

Ben Johnson, Ben Johnson Associates

A couple of quick comments. One, Southwestern Bell has been kind enough to have supplied last week as part of their filing the depreciation rates and I think it really does highlight the narrow range of the issue. If you look at some of these

examples, it happens there was a difference apparently between the PUC staff and the FCC, but it's within a narrow range. I mean, the Texas PUC was apparently agreeing with lives very close to the ones being advocated by Mr. Vander Weide, and the FCC is closer to what MCI is saying and it's obvious that there's that much room for difference of opinion.

Let me suggest a mental exercise to think about in terms of why there's this difference of opinion. Let's take copper cable as an example. Now, from my perspective as an economist, what I think we're talking about as the economic life is not the strategic life of an incumbent carrier, how long they would want to continue to deploy copper and when they would want to replace it with fiber. The question is, at that time, when they're ready to replace it with fiber, is there any remaining economic value there? Could they auction off that residual copper to some other carrier, a competitor? And if so, would it be any significant fraction of the original value? And if in, say, seven years from now they could go out and still auction it for say 30 or 40% of the replacement cost, that's telling you that a 10-year life is about right, or whatever. But, on the other hand, if they get to the point when they say at their 9-year life when they say they're going to get rid of all this copper and they say, "we're done with it, but there's plenty of other carriers in equivalent of the used car market, other people willing to take it over and continue to use it and willing to pay a significant fraction of its original cost," that suggests that there really is some economic value remaining, and the true economic life of the plant

does extend beyond the target retirement date of the incumbent carrier. I think that may explain part of the differences of these, you know, relative narrow range of years is a perspective of a carrier that may have plans to expand into video or the like versus whether the copper itself it technically still economically useful to a carrier providing basic exchange service.

Emily Hoffnar, FCC

Labros, do you want to say anything?

Labros Pilalis, Pennsylvania Public Utility Commission

A very quick comment. First of all, the utilization of the proxy models and the inputs of depreciation cost parameters, expenses and costs, is not going to be a static process. It's going to be a dynamic process. So the inputs can be adjusted on a moving forward basis. We are right now is what I call the "end of the beginning." What is being done right now is very preliminary, so much more work will be done in that area. In addition I want to mention the fact that in questions of depreciation, the states, depending on the method of regulation of their carriers, may play a less of a role on economic depreciation decisions. For example, even the telecommunications carriers themselves often argue that, "well, if we are under price cap regulation, why should you care or worry about depreciation?" In addition, I want to bring up the very

well-known fact which, of course, initially came to my attention from a rather well-known FCC economist that in the financial accounting, regular financial reporting accounting world out there, a lot of telecommunications carriers have written off older economically obsolete, engineering obsolete — however you want to call it — investment. The same has not taken place in the regulatory books of accounts.

Emily Hoffnar, FCC

Rebuttal?

James Vander Weide, Financial Strategy Associates

I didn't get a chance to respond to the second question because I was responding before it was asked. I think the bottom line relates to Labros' comment that, in fact, the companies themselves have decided for financial reporting purposes, which is what the real market test is, that the regulatory lives haven't been sufficient to recover — to reflect the actual economic lives. With regard to Ben's comment, those numbers do reflect whether there is any resale value. They don't reflect just what their strategic interest is, they reflect what the value of the equipment is in the marketplace compared to what it is on their books. And the value in the marketplace would include any resale or use by another company at a later time. They take that step very reluctantly because it reduces their earnings. And yet they did so because they knew that the

regulatory depreciation lives did not match with the economic lives of the equipment.

Labros Pilalis, Pennsylvania Public Utility Commission

(Inaudible) however, the question still remains, how come and this action was not reflected in the regulatory area, especially in view of the fact that the investment was written off was still an embedded and still is embedded, for the most part, in existing ratemaking mechanisms. So, we have an inconsistency here as to how we like to measure economic value. On one hand, if it relates to ratepayer revenues that we receive, well, the rate base is the holy rate base. But if it is in situations responding to competitive pressures, well, then, we have to go in financial accounting and write off those amounts and I might add, only for one year. And then the earnings of all those carriers went up to very nice profitable levels soon thereafter and they have stayed there.

James Vander Weide, Financial Strategy Associates

But the issue here is what are the depreciation lives for the models, not for regulation.

Labros Pilalis, Pennsylvania Public Utility Commission

Yes, but the depreciation lives for the models have the tendency to permeate themselves into other parameters within the

models and also in the ratemaking that it is based and follows the application of those models.

Robert C. Schoonmaker, GVNW Inc./Management

Yes, I wanted to respond briefly to the comment that Susan made in regards to at least independent, and particularly small independent company LEC switch change-out decisions, and she described this process of projecting the revenues and so forth. Unfortunately, many ILEC switch decisions aren't made on that basis, they're made on the basis of regulatory requirements which are imposed to provide certain features and switches, particularly for access to the toll calling network, such things as flex A&I, OLS, equal access, fortage of kit-codes, interchangeable NPA codes, and now potentially number portability, and they're not being made on projections of revenues but because the regulators are saying "you have to provide these capabilities in order that you can complete calls by certain time frames." So, the decisions are not necessarily being made on streams of revenues and streams of expenses, but on regulatory requirements where you have to do it by a certain date or you're not going to be able to access the toll network anymore and therefore the switched lives are shorter than what we're seeing in the proposed depreciation rates in many cases.

Male Speaker

Well, unfortunately we're not always going in linear fashion here, but I'd like to respond to a couple of statements that were made by Dr. Vander Weide. First, I do not think the economists believe that you look to the financial books of a firm for the statement about what the economic depreciation or position is, that I would have to take exception to that position. And secondly, quite honestly, neither do other LECs. We've seen huge premiums paid over net book for PacTel by Southwestern Bell and for NYNEX by Bell Atlantic. There have been proposals made in the past. "Well, why, if the LEC claims it's underdepreciated or that these numbers are all wrong, why won't they sell off their plant at net book value," and that they've generally refused to do that, as far as I'm aware. The sales of exchanges that have been taken place has been above book value. So, I really think that the economics mean that you cannot look to those financial books where they have because they face less scrutiny, less review, have written off stuff very quickly. That that's for purposes beyond providing input as to what the economics are in their business.

Susan Baldwin, Economics and Technology, Inc.

Bob's absolutely right that the technology that's reflected in the cost proxy model needs to comport not only with reasonable business case decisions, but it needs to provide the quality of service and the scope of service that will be subsidized through

the Universal Service Fund and arguably those services that would be included in the spectrum of services in the revenue threshold. I'm simply saying with those parameters looking forward, the decision of whether the switch life is 10 years or 15 years should be driven by the economic efficiency within those parameters providing that service. And then responding to the concern about the different depreciation rates used for financial purposes, financial purposes does not — it may be a reality check for financial, overall financial business case decisions, but it's not a reality check for the basic local exchange service that's being subsidized.

Emily Hoffnar, FCC

Last comments? Could I get a show of hands of how many people intend to ask questions in the audience? Okay. Any questions from our state colleagues? Okay, could whoever's closest to the microphone please come forward.

Kathy Ford, U S West

Kathy Ford with U S West. I have a question or two to direct to Mr. Clarke. You stated rather emphatically today that your — for instance, your cost of capital, default input for Hatfield is a forward-looking input, and I believe it's 10.01%, you can correct me if I'm wrong. That's the default. I wonder if you can —

Richard Clarke, AT&T

That's the national average default.

Kathy Ford, U S West

Okay, I wonder if you can explain for me then why, in every single U S West arbitration proceeding, if the state-prescribed cost of capital is lower than your 10.01%, when you actually run the results for that state you use the lower value, and if the state-prescribed rate is higher, when you run the results for that state, you use your 10.01% default value.

Richard Clarke, AT&T

I'm not equipped to deal with all the ins and outs of individual arbitration proceedings that have gone on. That there are many idiosyncratic issues that go on in these proceedings and I am going to speak to what the national average was that you can calculate a U S West average cost of capital. But the answer to this is that your calculation of the cost of capital gets more and more error in it the finer and finer jurisdiction that you wish to go down to. And I can't speak to what a particular cost of capital would be, not just for the telco subsidiary area of a LEC, although it appears to be smaller — well, a smaller cost of capital than for the RBOC holding company, but now when we get down to individual state proceedings you're talking about sub-jurisdictions within the telco subsidiary of the LEC. And I just

can't opine on what the puts and takes are of individual numbers or what the other external issues were in these arbitrations.

Kathy Ford, U S West

Okay, I have a similar question when it comes to the depreciation default inputs in the Hatfield Model. In every arbitration proceeding that I've been involved in, the Hatfield folks, when they run the results for that state, change the depreciation rates to state-prescribed rates when those rates are higher than the default inputs. And I'm wondering if you can comment on those specifics.

Richard Clarke, AT&T

Again, different states have different mixes of plant that could well — well, actually plant mixes that should not affect this. But in different states they have found different depreciation rates that the FCC has an overall range of rates that they find appropriate, but these meetings are state-specific for a particular LEC. And, again, I just can't speak to any specifics about what might have been done in a particular arbitration in a particular state.

Kathy Ford, U S West

Okay, I guess what I was getting at is, is it your opinion that the prescribed rate should be used or that the default inputs are the forward-looking rates that should be used?

Richard Clarke, AT&T

The forward-looking rates may differ from state to state because of different characteristics that could exist in that state, that we were talking about whether they should be different depreciation rates by whether it's Bis service or Res service, or what fraction of the service offered is interexchange service versus local service. And that these ratios can vary in different states so that there could well be a different appropriate number to enter in individual states and that I just can't speak to any individual one.

Emily Hoffnar, FCC

Would anyone else at the table like to respond? Could we have another question from the audience? Please come to the microphone if you can.

Mark Kennett

My name is Mark Kennett. My question for the modelers is I'd like to see if we can't unbundle the very legitimate questions about the data from the operation of the models themselves. Has anybody gone through the experiment of trying to map the various data sources to fit the input requirements of your model and then run it to see if there are differences between the results that you obtain, and if so, is there a way that you can use to explain those differences?

Male Speaker

I believe that Christensen Associates has done that an written a report on it. Lau Christensen will be on the panel this afternoon and they've compared the models on the basis of common inputs and he can describe the results of that.

Richard Clarke, AT&T

If that was the question, yes, we have tried to, for the earlier versions of the models tried to see what if we try to take BCM2 inputs and put them into the Hatfield Model and see what results we came out with. And, again, that will be a topic of discussion this afternoon, but in general, the inputs were very important in coming up with a common output.

Emily Hoffnar, FCC

Ben, would you like to respond to that?

Ben Johnson, Ben Johnson Associates

I haven't performed the exercise, but I've examined the inputs of the various models, compared them to ours and looked at some outputs and gotten a feel that's consistent with apparently the people who actually did it which is, I think, model structure is relatively minor. Input values are far more significant in explaining differences in the outputs. And if we ever get to the point where either the Joint Board tells us what the right inputs

are, or we even have a narrowed range of what the appropriate inputs are, we will find that the modeling issues become more a question of what kind of questions do you want to answer? What kinds of studies do you want to run? And much less the question of, well, how much does it cost to actually do something? That what it costs to do something is going to be estimated to be about the same under all these models if you properly define a common set of assumptions as to what it is you're trying to measure and what your input assumptions are and how you're developing that estimate.

Susan Baldwin, Economics and Technology, Inc.

The entire focus, in fact, of the report we did in October on behalf of the NCTA was an attempt to equalize, to the extent we could, and it's not an easy task, the inputs across the models and to try to figure out just how far apart they were. And I know that depreciation was one of the things that, although it was hard-wired into the BCM2, we just sort of backed our way into it to equalize. And I'd have to look back at our October report to see what the conclusion is, but I would generally concur with Ben that the models — different results are largely driven by differing assumptions about input. But, again, the October report was an attempt to equalize between the BCM2 and the Hatfield.

Emily Hoffnar, FCC

Larry.

Lawrence P. Cole, GTE Laboratories, Inc.

Yes, I think those of us who have made some runs of the models, varying the inputs to test them for sensitivity and to see how the results change when you use input values, either in the BCM2 or in the Hatfield Model, more along the lines of what you think they should be, what you find in the case of the Hatfield Model, for example, is that certainly at the — let's say if you're making a — calculating the estimated cost of universal service or of loops in the unbundled network element version running of the model, yes, the numbers come up into the range of what the BCM2 and CPM calculated. And while that might give you a certain amount of comfort that it is the — or lead you to the conclusion that it's the inputs and not the structure, I would just have to say that with respect to 10 or 11 unbundled network elements, that I'm not sure that I feel as much comfort about the relative prices of those, for example. There's an awful lot of cost allocation that goes on inside the model. And of course we can't compare it with what BCPM, or whatever it will be called when it does unbundled network elements, how those are going to compare. So, I think there's more than just the question of whether that aggregate loop cost estimate or universal service cost estimate gets up close to what the other

models are or how it changes. There's also the question of the relative prices of unbundled network elements.

Emily Hoffnar, FCC

I believe this question whet our appetites for this afternoon's session. But any further questions relating to capital expenses. The woman in the back?

Karen Knotson, Teleport Communications Group

Karen Knotson from Teleport Communications Group, and I have a question for Dr. Vander Weide. This morning I've heard you arguing that the model assumptions should be consistent with that of a competitive — an efficient competitive new entrant into the market. And TCG is an efficient facilities-based competitor into the net market, yet we have absolutely no plans to put a switch in every wire center and match the wire centers of the incumbent LECs. So my question to you is, how do you reconcile wanting to have the same consistent assumptions that are identified with a competitive new entrant and maintaining the wire center structure of the incumbent LECs?

James Vander Weide, Financial Strategy Associates

Well, first of all, let me say that it wasn't me that came up with the idea of the efficient new competitor as a standard, that was the FCC in the universal service order. They had eight criteria that had to be met for cost models, and one of the major

criteria was that it had to represent the costs of an efficient new competitor. The existing — and I don't know what was their criteria for choosing the existing wire centers. I assume that because that seemed to be an easier assumption than any alternative that they could come up with at the time. It certainly is true that another competitor could come up with different wire centers, but if you constantly follow the efficient technology principle, those wire centers too would be out of date in a very short time and so you'd have to redo the studies and find another efficient set of wire centers. And if you keep doing that, you arrive at the conclusion that no competitor will ever recover their costs of entering the industry because their technology will never be — they can never keep up with the efficient technology standard. They have to put some in that's irreversible. A short time later a new technology or new wire center becomes optimal and they end up losing their investment. So there basically is just, under that efficient technology assumption, there is really no incentive for a competitor to enter the industry or for a LEC to invest in the network. But, that's the assumption we're taking as given by the FCC.

Emily Hoffnar, FCC

Would anyone else like to respond to this?

Lawrence P. Cole, GTE Laboratories, Inc.

Yes, just briefly. I think your question is consistent with the point that I was making about what is the entry scenario that gets modeled. Obviously there are several. I think in general what we're talking — what we're really talking about the incremental cost of adding to the networks that the various entrants already have. Whether you're a cable TV or an IXC or an electric utility or — you're going to build off from what you already have incrementally. Now, that would mean we'd have to have either a model that was capable — a single model that was capable of addressing all of those kinds of entry scenarios including the wireless, or you'd have to have separate models. And I don't think anybody really wants to do all that, but if the objective of the exercise is to try and find out what kinds of prices are likely to prevail, then you need to know where the — you know, how much pricing downward or pricing pressure is likely to come from where.

Emily Hoffnar, FCC

Thank you. Labros.

Labros Pilalis, Pennsylvania Public Utility Commission

To the extent that (inaudible) and it has been stated by the architects of these models before that we do accept the inefficiency of the presence of the current wire centers, of course, with or without, you know, putting switching equipment

into in every single one of them. But the model runs that I've seen so far assume that there are central local switches in those places. So, consequently, the total numbers that come out of this efficient type of network probably tend to overstate the associated total cost figures for these efficient type of networks. So, by doing that, I think when Professor Vander Weide has been arguing before, we're kind of safe in saying that actually the costs probably are driven towards the high side of things because we do not absolutely, positively, 1,000% optimize the designs of these networks in these models.

Emily Hoffnar, FCC

Could we have another question from the audience. Please come forward, sir.

Rick Emerson, INDETEC Corporation

My name is Rick Emerson. I'm with INDETEC Corporation. I'd like to address this question to the panel and I suppose it will end up being a multiple choice question, which means you should feel free to add choices if I don't capture them all. And I also want to avoid triggering a debate which this question might trigger and I'll try to word the question to avoid that. If a carrier fulfills its universal service obligation and subsequently loses market share, and that subsequently results in underutilized assets. And the debate I don't want to trigger is the extent of that underutilization. If that were the case,

where should those underutilized assets be reflected in the cost studies? I see three options. The first is, it could be reflected in adjusted depreciation rates recognizing that the value of assets declines with its revenue generating capacity. Second, it could be reflected in fill factors, recognizing the achievable levels of utilization. And third, it could be reflected in an adjustment to the risk factor associated with the cost of money. And I suppose a fourth option, if one is careful not to double count this cost, would be some combination of the above. The question I have is: Where should this phenomenon be reflected should it occur?

Emily Hoffnar, FCC

Thank you. Who would like to jump in first?

Ben Johnson, Ben Johnson Associates

I guess I'll start. I'll first add a fourth option, which is to run the study with a new market share such as their new — the market share they've dropped to, maybe they've dropped to 70%, you could run the study at 70%. That's one way to deal with the issue. But the question presupposes that the appropriate regulatory response is to raise the subsidy payments which will presumably drive down their market share even further because you're making it even easier for the competitors that have entered that market to make money. So, they can start cutting prices, or advertising more aggressively, or expanding their

facilities to scoop up more than 30% of the market share to eventually drive out the incumbent entirely. So, the initial question presupposes the proper response is to be raising the payments out of the fund. And I'm not sure, given that we've already accepted the concept of a competitively neutral fund that's available to the entrants as well, that we really need to solve the question of the best way to come up with an excuse to raise their payment.

Emily Hoffnar, FCC

Susan.

Susan Baldwin, Economics and Technology, Inc.

I opt for none of the above. I don't think universal service should be used as a make-whole mechanism as we go into a competitive environment. We have to bear in mind that the new entrant, unlike the incumbent carrier who is presumably the one who just lost the market share, doesn't have 100% so doesn't enjoy these economies of scale and scope to begin with. So that the costs that they have are not those in the model because they don't have 100% of the market share. So I don't think any of the three options, or the combination of the three options, is appropriate.

James Vander Weide, Financial Strategy Associates

I think the point, though, is what are the results of applying the models. The models don't measure an entrant who gets 100% of the market, and that one that gets a smaller percentage. We all recognize the one who got a smaller percent would have a higher cost. So, basically, by assuming 100% and by assuming efficient technology of a new entrant, but a regulated cost of capital, we are biasing the results downward and we are virtually guaranteeing that the Universal Fund payment would not be sufficient to cover the costs, and hence, there will be no incentive to continue to invest in network in rural areas.

Labros Pilalis, Pennsylvania Public Utility Commission

One point that I find very bothersome with the question is that I think implicit in that you are assuming, I think, that the total market is static. Market share loss for someone is a market share win for someone else. The question does not address, for example, the area what happens if the total market goes up? If you have presence of multiple competitors, you may have the facilitation of offering additional services and thus of setting the static market share loss that has been addressed in the question. So, everybody can still be happy. (Laughter)

Lawrence P. Cole, GTE Laboratories, Inc.

Rick, I think my view would be that ideally what you'd like to do would be to start out the new transition period without an

overhang, if there were one. And if there is one, and I think clearly there's some stuff that's been insufficiently depreciated already. And so, but if you took — use some other mechanism to address that, and had symmetric regulation, if the parties — beyond some point in time the parties were treated equally or appropriately, then I think you try to get away from a regulatory prescribed treatment as quick as possible. Again, I think that's one of the kinds of issues that our proposed auction mechanism is designed to deal with is to get some reality on the table by means of market processes, not by regulatory attempts to simulate a whole lot of things that — or don't have experience with and don't know how to do well and haven't done in the past.

Emily Hoffnar, FCC

Next question.

Ann Marie Kovacks, Janney Montgomery Scott

I'm Ann Marie Kovacks. I work for Janney Montgomery Scott, which is an investment firm, so I have a somewhat different perspective, I guess, from many of you. My question, I think, is primarily for Ben because your model is one that does adjust for market share difference which, at least in my analysis, is the overwhelming factor in looking at any of the cost issues. And I'm wondering whether you have — let me back up. I seems to me that what you're trying to do here is figure out, basically, the equilibrium price to which an incumbent would be forced by the

pressures of new competitors. And that one way you could achieve that would be to run Ben's model from both ends, start with the new entrant at zero share and astronomical cost, and the incumbent right now we know is at 100% share and we have a pretty good idea of what their real-life cost is, run both of them toward the middle and see where the two meet at something like equilibrium, and that would give you a fairly good idea of where the market would stabilize, at what market share and what kind of input Rich could then run through his model. Forgive me for the long exposition. But my question, Ben, is have you done that and what sort of numbers do you come up with if you have? And what would the difficulties be about doing it?

Ben Johnson, Ben Johnson Associates

We haven't specifically done that. There's several difficulties. The obvious example is trying to determine how much lower the labor costs would be for the new entrant or other things that might offset the economies of scale. The model is capable of both measuring the economies of scale inherent in certain of this technology as well as the potential offsetting economies of small size or diseconomies of large size that are in the form of things like union contracts that might burden the incumbents, the potential of hiring cheaper labor, the potential of relocating your wire centers, things of that sort. What we have done is a little different exercise which is to take a specific example of a 25% market share, which we selected as being sort of a reasonable number to look at because that's what

AT&T was seeking. And certainly even if they didn't achieve it entirely on their own in retail, they might well achieve it by selling wholesale unbundled elements to some other firms like MCI or whomever. So we looked at that and we did find that there was a significant difference, as I mentioned earlier. As I recall in New Jersey, the increase in their cost for an item like a loop was about 50% higher at a dramatically lower market share, 25% market share, and it was roughly double or more in some of the rural areas. Another interesting result was that switching costs were not nearly as sensitive to scale and thus you would expect switch entry almost immediately, even for smaller firms. We've also run some exercises where we looked at even smaller market shares, I think we looked at 10% once for North Carolina staff, and we, again, found the pattern we were expecting which is that it's unlikely that facilities-based entry will occur for extremely small carriers. If we're going to have some carriers of the 1, 2, 3, 5% range as we have seen in long distance, they are much more likely to be resale type carriers as we've seen in long distance.

Emily Hoffnar, FCC

Who else would like to respond? Susan.

Susan Baldwin, Economics and Technology, Inc.

I think Labros' previous comments are right on. The market's growing; it's not a static market so that these kinds of

market share analyses get a little tricky and there should be some caution put into them. The ILECs are out there actively marketing second lines. Customer education on that is pretty widespread. It's not necessarily an either/or, either the ILEC or the CLEC, it may be both. And our experience in the long distance market, competition in that market, shows that because the pie is growing overall, a loss in market share does not necessarily translate into a loss in revenues.

Lawrence P. Cole, GTE Laboratories, Inc.

Yes, I'd like to comment on that, if I may. I think the example of what happened in the long distance business may not be particularly instructive for what happens in the local business. I think we had pent-up demand in the long distance business waiting for prices to come down. I don't know that we've got — I recognize that there's some acceleration of the demand for second lines and it may continue and it may accelerate further. It seems to me that when you — again, that's my point about growth, that the models need to be able to take growth into account somehow. If these are not optimization models, as has been pointed out, neither are they dynamic simulation models that look out 20 years, or however many years, and have some built-in way by which you get from one time period to another, and you need projections of demand and you need projections of cost and lots of other things. And those get to be very complicated models and they need a lot more inputs. And if you think we've got problems with the existing models, they just get magnified.